217/785-1705

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- NSPS SOURCE -- REVISED

PERMITTEE

Unimin Corporation - Utica
Attn: William McTee
402 Mill Street
Utica, Illinois 61373-0409

Application No.: 10110041 I.D. No.: 099833AAG
Applicant's Designation: Date Received: January 14, 2014
Subject: Silica Sand Mine and Processing Facility - Silica Sand
Date Issued: June 4, 2014 Expiration Date: October 5, 2016
Location: 402 Mill Street, Utica, LaSalle County

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

Two (2) 35 mmBtu/hour Natural Gas-Fired Rotary Dryers (DR-01 and DR-02) Controlled by Drop Box and Wet Scrubber (WS-01);
Nineteen (19) Damp Material Conveyors (BC-01 through BC-04, BC-07 through BC-09, RC-01, BC-13 through BC-18, BC-40 through BC-42, BC-09C, and RC-02);
Four (4) Covered Conveyors (BC-22, BC-23, BC-28, and BC-34);
Ten (10) Conveyors (BC-51, BC-52, BC-24, BC-29, BC-30, BC-19B, BC-20 (BC-13b), BC-21 (CC-03), BC-301, and BC-302) Controlled by Baghouses and Wet Scrubbers;
Seven (7) Bucket Elevators (BE-01, BE-04 though BE-07, BE-301, and BE-302) Controlled by Baghouses and Wet Scrubbers;
Five (5) Storage Hoppers (HO-01 through HO-04, HO-10);
Twenty-Seven (27) Storage Bins (BN-01 through BN-11, BN-13 through BN-21, and BN-300 through BN-306) Controlled by Baghouses and Wet Scrubbers;
Five (5) Truck Loadout Areas (LS-03 through LS-05, LS-501, and LS-301) Controlled by Baghouses;
One (1) Rail Loadout Area (LS-01) Controlled by a Baghouse;
Twenty-Three (23) Vibrating Screens (VS-05, VS-06, VS-11 through VS-21, VS-31, VS-32, and VS-300 through VS-307) Controlled by Baghouses and Wet Scrubbers;
Three (3) Damp Material Vibrating Screens (VS-01, VS-03, and VS-24);
Thirteen (13) Sealed Vibrating Screens (VS-22, VS-25 through VS-30, and VS-33 through VS-38);
Two (2) Sealed Vibrating Conveyors (VC-02 and VC-31); and
Two (2) Crushers (CR-01 and CR-02);
Two (2) Crushers (CR-1101 and CR-1102);
One (1) Damp Material Hopper (HO-1101);
Two (2) Damp Material Feeders (FE-1101 and FE-1301);
Seven (7) Damp Material Conveyors (BC-1101, BC-1102, BC-1301, BC-1302, BC-1303, BC-1304, and BC-1305);
One (1) Damp Material Storage Bin (BN-1301);
One (1) Damp Material Vibrating Screen (VS-1102);

One (1) 40.0 mmBtu/Hour Liquid Propane or Natural Gas-Fired Dryer Fluid Bed Dryer (DR-1301) Controlled by the Cyclone (CY-1301) and Wet Scrubber (WS-1301);
Eleven (11) Conveyors (BC-1401, BC-1402, BC-1403, BC-1501, BC-1502, BC-1503, BC-1504, BC-1505, BC-1601, BC-1602, and BC-1603) Controlled by the Screenhouse Dust Collector (DC-1401), The Rail Loadout Dust Collector (DC-1501), and Truck Load Out Dust Collector (DC-1601);
Four (4) Bucket Elevators (BE-1401, BE-1501, BE-1502, and BE-1601) Controlled By The Screenhouse Dust Collector (DC-1401) and The Rail Loadout Dust Collector (DC-1501);
Eleven(11) Vibrating Screens (VS-1401, VS-1402, VS-1403, VS-1404, VS-1405, VS-1406, VS-1407, VS-1408, VS-1409, VS-1410, and VS-1411) Controlled by the Screenhouse Dust Collector (DC-1401),
Twenty-Three (23) Storage Bins (BN-1401, SI-1401 Through SI-1416, SI-1501 Through SI-1505, and SI-1601) Controlled by the Screenhouse Dust Collector (DC-1401), The Rail Loadout Dust Collector (DC-1501), and Truck Load Out Dust Collector (DC-1601);
Two (2) Loadout Points (LS-1501, LS-1601) Controlled by the Rail Loadout Dust Collector (DC-1501) and The Truck Load Out Dust Collector (DC-1601);
Three (3) Screw Conveyors (SC-1401, SC-1402, and SC-1403); and
One (1) Loadout Spout (LS-1502).

pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for Particulate Matter less than 10 microns (PM_{10})). As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit are described in Attachment A.

b. Prior to initial issuance, a draft of this permit has undergone a public notice and comment period.

c. This permit supersedes all operating permit(s) for this location.

2. This source is subject to the New Source Performance Standard (NSPS) for Nonmetallic Mineral Processing Plants, 40 CFR 60 Subparts A and OOO. The Illinois EPA is administrating NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

b. Pursuant to 40 CFR 60.670(a), except as provided in 40 CFR 60.670(a)(2), (b), (c), and (d), the provisions of 40 CFR 60 Subpart OOO are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, and enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including,

the first storage silo or bin are subject to the provisions of 40 CFR 60 Subpart OOO.

c. Pursuant to 40 CFR 60.672(a), affected facilities must meet the stack emission limits and compliance requirements in Table 2 of 40 CFR 60 Subpart OOO within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.8. The requirements in Table 2 of 40 CFR 60 Subpart OOO apply for affected facilities with capture systems used to capture and transport particulate matter to a control device.

Table 2 to 40 CFR Subpart OOO — Stack Emission Limits for Affected Facilities With Capture Systems

For * * *	The owner or operator must meet a PM limit of * * *	And the owner or operator must meet an opacity limit of * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in 40 CFR 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	0.032 g/dscm (0.014 gr/dscf) a	Not applicable (except for individual enclosed storage bins) 7 percent for dry control devices on individual enclosed storage bins	Monitoring of baghouses according to 40 60.674(c), (d), or (e) and 40 CFR 60.676(b).

d. Pursuant to 40 CFR 60.672(b), affected facilities must meet the fugitive emission limits and compliance requirements in Table 3 of 40 CFR 60 Subpart OOO within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup as required under 40 CFR 60.11. The requirements in Table 3 of 40 CFR 60 Subpart OOO apply for fugitive emissions from affected facilities without capture systems and for fugitive emissions escaping capture systems.

Table 3 to 40 CFR 60 Subpart OOO — Fugitive Emission Limits

For * * *	The owner or operator must meet the following fugitive emissions limit for grinding mills, screening operations, bucket elevators, transfer points on belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading stations or from any other affected facility (as defined in 40 CFR 60.670 and 60.671) * * *	The owner or operator must meet the following fugitive emissions limit for crushers at which a capture system is not used * * *	The owner or operator must demonstrate compliance with these limits by conducting * * *
Affected facilities (as defined in 40 CFR 60.670 and 60.671) that commence construction, modification, or reconstruction on or after April 22, 2008	7 percent opacity	12 percent opacity	An initial performance test according to §60.11 of this part and §60.675 of this subpart; and Periodic inspections of water sprays according to §60.674(b) and §60.676(b); and
			A repeat performance test according to 40 CFR 60.11 and 40 CFR 60.675 within 5 years from the previous performance test for fugitive emissions from affected facilities without water sprays. Affected facilities controlled by water carryover from upstream water sprays that are inspected according to the requirements in 40 CFR 60.674(b) and 40 CFR 60.676(b) are exempt from this 5-year repeat testing requirement.

e. Pursuant to 40 CFR 60.672(e), if any transfer point on a conveyor belt or any other affected facility is enclosed in a building, then each enclosed affected facility must comply with the emission limits in 40 CFR 60.672(a) and (b), or the building enclosing the affected facility or facilities must comply with the following emission limits:

i. Fugitive emissions from the building openings (except for vents as defined in 40 CFR 60.671) must not exceed 7 percent opacity; and

ii. Vents (as defined in 40 CFR 60.671) in the building must meet the applicable stack emission limits and compliance requirements in Table 2 of 40 CFR 60 Subpart OOO.

f. Pursuant to 40 CFR 60.672(f), any baghouse that controls emissions from only an individual, enclosed storage bin is exempt from the applicable stack PM concentration limit (and associated performance testing) in Table 2 of 40 CFR 60 Subpart OOO but must meet the applicable stack opacity limit and compliance requirements in Table 2 of 40 CFR 60 Subpart OOO. This exemption from the stack PM concentration limit does not apply for multiple storage bins with combined stack emissions.

3a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.

b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meter (1000 foot) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.

c. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.

d. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).

4. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.

5. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material

into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart K shall apply only to photochemical reactive material.

6. Pursuant to 35 Ill. Adm. Code 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hour) to exceed 200 ppm, corrected to 50 percent excess air.

7. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hour (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.

8a. Pursuant to 40 CFR 60.11(b), compliance with opacity standards in 40 CFR Part 60 shall be determined by conducting observations in accordance with Method 9 in Appendix A of 40 CFR Part 60, any alternative method that is approved by the Illinois EPA or USEPA, or as provided in 40 CFR 60.11(e)(5). For purposes of determining initial compliance, the minimum total time of observations shall be 3 hours (30 6-minute averages) for the performance test or other set of observations (meaning those fugitive-type emission sources subject only to an opacity standard).

b. Pursuant to 40 CFR 60.11(c), the opacity standards set forth in 40 CFR Part 60 shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

c. Pursuant to 40 CFR 60.11(d), at all times, including periods of startup, shutdown, and malfunction, owners and operators shall to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA or USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

9a. Pursuant to 35 Ill. Adm. Code 212.306, all normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with

water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312

b. Pursuant to 35 Ill. Adm. Code 212.307, all unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.

c. Pursuant to 35 Ill. Adm. Code 212.308, crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program.

d. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in 35 Ill. Adm. Code 212.304 through 212.308 and 35 Ill. Adm. Code 212.316 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.

e. Pursuant to 35 Ill. Adm. Code 212.310, at a minimum the operating program shall include the following:

   i. The name and address of the source;

   ii. The name and address of the owner or operator responsible for execution of the operating program;

   iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;

   iv. Location of unloading and transporting operations with pollution control equipment;

   v. A detailed description of the best management practices utilized to achieve compliance with 35 Ill. Adm. Code 212 Subpart K, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;

   vi. Estimated frequency of application of dust suppressants by location of materials; and

   vii. Such other information as may be necessary to facilitate the Illinois EPA’s review of the operating program.

f. Pursuant to 35 Ill. Adm. Code 212.312, the operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with 35 Ill. Adm. Code 212 Subpart K and shall be submitted to the Illinois EPA for its review.

10a. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.

b. The baghouses and wet scrubbers shall be in operation at all times when the associated dryer, conveyors, bucket elevator, storage bins, truck loadout area, rail loadout area, or vibrating screen, are in operation and emitting air contaminants.

c. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the baghouses and the wet scrubbers such that the baghouses and wet scrubbers are kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.

d. The dryers shall only be operated with natural gas as the fuel. The use of any other fuel in the dryers requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.

11a. The amount of material handled by the source shall not exceed the following limits:

i. The amount of aggregate crushed shall not exceed 1,512,400 tons per month and 15,124,000 tons per year;

ii. The amount of aggregate screened shall not exceed 1,596,915 tons per month and 15,969,150 tons per year;

iii. The amount of aggregate dried shall not exceed 378,700 tons per month and 3,787,000 tons per year; and

12a. Emissions and operation of the emission units shall not exceed the following limits:

	Throughput		E M I S S I O N S					
			PM			PM_{10}		
Item of Equipment	(T/Mo)	(T/Yr)	(lb/T)	(T/Mo)	(T/Yr)	(lb/T)	(T/Mo)	(T/Yr)
19-Damp Conveyors	2,538,525	25,385,250	0.00014	0.18	1.78	0.000046	0.06	0.58
5-Damp Hoppers	806,300	8,063,000	0.00014	0.06	0.56	0.000046	0.02	0.19
1-Storage Bin	8,140	81,400	0.056	0.23	2.28	0.0024	0.01	0.10
1-Loadout Spout	30,525	305,250	0.028	0.43	4.27	0.0012	0.02	0.18
3-Damp Screens	440,000	4,400,000	0.0022	0.23	4.84	0.00074	0.16	1.63
13-Sealed Screens	79,365	793,650	0.025	0.05	0.50	0.0087	0.02	0.17
2-Damp Crushers	286,000	2,860,000	0.003	0.43	4.29	0.0012	0.17	1.72
				Total:	18.52			4.57

These limits are based on the maximum process throughput, standard emission factors (Table 11.19.2-2, AP-42, Fifth Edition, Volume I, Update 2004, August 2004), and 95% capture efficiency for sealed screen emission units.

b. Emissions shall not exceed the following limits:

	Throughput		E M I S S I O N S					
			PM			PM_{10}		
Item of Equipment	(T/Mo)	(T/Yr)	(lb/T)	(T/Mo)	(T/Yr)	(lb/T)	(T/Mo)	(T/Yr)
2-Sand Dryers	203,500	2,035,000	0.039	3.97	39.68	0.02	2.04	20.35
4-Covered Conveyors*	223,850	2,238,500	0.0030	0.17	1.68	0.0011	0.06	0.62
10-Collected Conveyors	986,975	9,869,750	0.0030	0.07	0.74	0.0011	0.03	0.27
6-Bucket Elevators	530,750	5,307,500	0.0030	0.04	0.40	0.0011	0.01	0.15
1-Bucket Elevator*	203,500	2,035,000	0.003	0.15	1.53	0.0011	0.06	0.56
26-Storage Bins	976,800	9,768,000	0.056	1.37	13.68	0.0024	0.06	0.59
5-Loadout Spouts	260,480	2,604,800	0.056	0.37	3.65	0.0024	0.02	0.16
23-Vibrating Screens	799,755	7,997,550	0.025	0.50	5.00	0.0087	0.17	1.74
2-Vibrating Conveyors	12,210	122,100	0.003	0.01	0.01	0.0011	0.01	0.01
				Total:	66.37			24.45

These limits are based on the maximum process throughput, standard emission factors (Table 11.19.2-2, AP-42, Fifth Edition, Volume I, Update 2004, August 2004), 50% capture efficiency for covered surfaces for covered conveyor and bucket elevator 95% control efficiency for baghouse dust collector for collected conveyors, bucket elevators, storage bins, loadout spouts, vibrating screens, and vibrating conveyors.

c. Emissions and operation of the emission units shall not exceed the following limits:

	Throughput		E M I S S I O N S					
Item of			PM			PM_{10}		
Equipment	(T/Mo)	(T/Yr)	(lb/T)	(T/Mo)	(T/Yr)	(lb/T)	(T/Mo)	(T/Yr)
1-Damp Hopper	613,200	6,132,000	0.00014	1.84	0.43	0.000046	0.01	0.14
2- Crushers	1,226,400	12,264,000	0.003	0.33	18.40	0.00120	0.74	7.36
2-Feeders	788,400	7,884,000	0.00014	0.06	0.55	0.000046	0.02	0.18

Item of Equipment	Throughput (T/Mo)	Throughput (T/Yr)	E M I S S I O N S PM (lb/T)	PM (T/Mo)	PM (T/Yr)	PM_{10} (lb/T)	PM_{10} (T/Mo)	PM_{10} (T/Yr)
7-Damp Conveyors	2,102,400	21,024,000	0.00014	0.15	1.47	0.000046	0.05	0.48
1-Storage Bin	175,200	1,752,000	0.00014	0.01	0.12	0.000046	0.00	0.04
1-Vibrating Screen	613,200	6,132,000	0.0022	0.68	6.75	0.00074	0.23	2.27
1-Wet Screens	613,200	6,132,000	0	0.00	0.00	0.00	0.00	0.00
				Total:	27.72			10.47

These limits are based on the maximum process throughput and standard emission factors (Table 11.19.2-2, AP-42, Fifth Edition, Volume I, Update 2004, August 2004).

d. Emissions and operation of the emission unit controlled by dust collector DC-302 shall not exceed the following limits:

Item of Equipment	Throughput (T/Mo)	Throughput (T/Yr)	E M I S S I O N S PM (lb/T)	PM (T/Mo)	PM (T/Yr)	PM_{10} (lb/T)	PM_{10} (T/Mo)	PM_{10} (T/Yr)
1-Dryer	175,200	1,752,000	0.039	3.42	34.16	0.02	1.75	17.52
11-Conveyors	2,890,800	28,908,000	0.003	0.04	0.43	0.0011	0.02	0.16
4-Bucket Elevators	1,051,200	10,512,000	0.003	0.02	0.16	0.0011	0.01	0.06
11-Vibrating Screens	797,160	7,971,600	0.025	0.10	1.00	0.0087	0.04	0.35
23-Storage Bins	902,280	9,022,800	0.056	0.25	2.53	0.0024	0.01	0.01
2-Loadout Spouts	175,200	1,752,000	0.056	0.05	0.49	0.0024	0.00	0.02
				Total:	38.77			18.12

These limits are based on the maximum process throughput, standard emission factors (Table 11.19.2-2, AP-42, Fifth Edition, Volume I, Update 2004, August 2004), and 80% control for dust collector.

e. Emissions and operation of the emission units shall not exceed the following limits:

Item of Equipment	Throughput (T/Mo)	Throughput (T/Yr)	E M I S S I O N S PM (lb/T)	PM (T/Mo)	PM (T/Yr)	PM_{10} (lb/T)	PM_{10} (T/Mo)	PM_{10} (T/Yr)
Loadout Spout	20,000	200,000	0.0030	0.03	0.30	0.0011	0.01	0.11

These limits are based on the maximum process throughput and standard emission factors (Table 11.19.2-2, AP-42, Fifth Edition, Volume I, Update 2004, August 2004).

f. This permit is based on negligible emission of particulate matter (PM) from wet screens. For this purpose, PM emissions per emission unit shall not exceed nominal emission rated of 0.1 lb/hour and 0.44 ton/year.

g. Operation and emissions of the dryer shall not exceed the following limits:

i. Natural Gas Usage: 35.0 mmscf/month, 350.4 mmscf/year.

ii. Emissions from the combustion of natural gas:

Pollutant	Emission Factor (lbs/mmscf)	Emissions (Tons/Mo)	Emissions (Tons/Yr)
Carbon Monoxide (CO)	84.0	1.36	14.72
Nitrogen Oxides (NO_x)	100.0	1.62	17.52
Particulate Matter (PM)	7.6	0.13	1.33
Sulfur Dioxide (SO_2)	0.6	0.01	0.11
Volatile Organic Material (VOM)	5.5	0.09	0.96

These limits are based on the maximum firing rate (40.0 mmBtu/hour), a heat content of 1,000 Btu/scf for natural gas, 8,760 hours per year of operation, and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

h. Operation and emissions of the dryer shall not exceed the following limits:

i. Propane Usage: 382,951 gallons/month, 3,829,510 gallons/year.

ii. Emissions from the combustion of propane:

Pollutant	Emission Factor (lbs/1000 gal)	Emissions (Tons/Mo)	Emissions (Tons/Yr)
Carbon Monoxide (CO)	7.5	1.36	14.36
Nitrogen Oxides (NO_x)	13.0	1.62	24.89
Particulate Matter (PM)	0.7	0.13	1.34
Sulfur Dioxide (SO_2)	0.5	0.01	0.96
Volatile Organic Material (VOM)	1.0	0.09	1.91

These limits are based on the maximum firing rate (40.0 mmBtu/hour), a heat content of 91.5 mmBtu/1000 gallons of propane, a maximum sulfur content of 5% for propane, and standard emission factors (Table 1.5-1, AP-42, Fifth Edition, Volume I, Updated, July 2008).

i. Operation and emissions of the dryers combined shall not exceed the following limits:

i. Natural Gas Usage: 31.78 mmscf/month, 317.76 mmscf/year.

ii. Emissions from the combustion of natural gas:

Pollutant	Emission Factor (lbs/mmscf)	Emissions (Tons/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	84.0	1.36	13.61
Nitrogen Oxides (NO_x)	100.0	1.62	16.21
Particulate Matter (PM)	7.6	0.13	1.23
Sulfur Dioxide (SO_2)	0.6	0.01	0.10
Volatile Organic Material (VOM)	5.5	0.09	0.89

These limits are based on the maximum fuel usage, a heat content of 1,000 Btu/scf for natural gas, 8,760 hours per year of operation, and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

j. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

13. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from the source being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program (CAAPP) Permit.

14a. Pursuant to 40 CFR 60.8(a), at such other times as may be required by the Illinois EPA or USEPA under section 114 of the Clean Air Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Illinois EPA or USEPA a written report of the results of such performance test(s).

b. Pursuant to 40 CFR 60.8(b), performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart of 40 CFR Part 60 unless the Illinois EPA or USEPA:

i. Specifies or approves, in specific cases, the use of a reference method with minor changes in methodology;

ii. Approves the use of an equivalent method;

iii. Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance;

iv. Waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Illinois EPA's or USEPA's satisfaction that the affected facility is in compliance with the standard; or

v. Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Illinois EPA's

or USEPA's authority to require testing under section 114 of the Clean Air Act.

c. Pursuant to 40 CFR 60.8(c), performance tests shall be conducted under such conditions as the Illinois EPA or USEPA shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Illinois EPA or USEPA such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.

d. Pursuant to 40 CFR 60.8(d), the owner or operator of an affected facility shall provide the Illinois EPA or USEPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Illinois EPA or USEPA the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Illinois EPA or USEPA as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Illinois EPA or USEPA by mutual agreement.

e. Pursuant to 40 CFR 60.8(e), the owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

   i. Sampling ports adequate for test methods applicable to such facility. This includes:

      A. Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test 1 methods and procedures; and

      B. Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

   ii. Safe sampling platform(s).

   iii. Safe access to sampling platform(s).

   iv. Utilities for sampling and testing equipment.

f. Pursuant to 40 CFR 60.8(f), unless otherwise specified in the applicable subpart of 40 CFR Part 60, each performance test shall consist of three separate runs using the applicable test method. Each

run shall be conducted for the time and under the conditions specified in the applicable standard under 40 CFR Part 60. For the purpose of determining compliance with an applicable standard under 40 CFR Part 60, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Illinois EPA's or USEPA's approval, be determined using the arithmetic mean of the results of the two other runs.

15. Pursuant to 40 CFR 60.11(e)(2), except as provided in 40 CFR 60.11(e)(3), the owner or operator of an affected facility to which an opacity standard in 40 CFR Part 60 applies shall conduct opacity observations in accordance with 40 CFR 60.11(b), shall record the opacity of emissions, and shall report to the Illinois EPA or USEPA the opacity results along with the results of the initial performance test required under 40 CFR 60.8. The inability of an owner or operator to secure a visible emissions observer shall not be considered a reason for not conducting the opacity observations concurrent with the initial performance test.

16a. Pursuant to 40 CFR 60.675(a), in conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendices A-1 through A-7 of 40 CFR Part 60 or other methods and procedures as specified in 40 CFR 60.675, except as provided in 40 CFR 60.8(b). Acceptable alternative methods and procedures are given in 40 CFR 60.675(e).

b. Pursuant to 40 CFR 60.675(b), the owner or operator shall determine compliance with the PM standards in 40 CFR 60.672(a) as follows:

i. Except as specified in 40 CFR 60.675(e)(3) and (4), Method 5 of Appendix A-3 of 40 CFR Part 60 or Method 17 of Appendix A-6 of 40 CFR Part 60 shall be used to determine the particulate matter concentration. The sample volume shall be at least 1.70 dscm (60 dscf). For Method 5 (40 CFR Part 60, Appendix A-3), if the gas stream being sampled is at ambient temperature, the sampling probe and filter may be operated without heaters. If the gas stream is above ambient temperature, the sampling probe and filter may be operated at a temperature high enough, but no higher than 121°C (250°F), to prevent water condensation on the filter.

ii. Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in 40 CFR 60.11 shall be used to determine opacity.

c. i. Pursuant to 40 CFR 60.675(c)(1), in determining compliance with the particulate matter standards in 40 CFR 60.672(b) or 40 CFR 60.672(e)(1), the owner or operator shall use Method 9 of Appendix A-4 of 40 CFR Part 60 and the procedures in 40 CFR 60.11, with the following additions:

A. The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).

B. The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9 of Appendix A-4 of 40 CFR Part 60, Section 2.1) must be followed.

ii. A. Pursuant to 40 CFR 60.675(c)(2)(i), in determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin under 40 CFR 60.672(f), using Method 9 (40 CFR Part 60, Appendix A-4), the duration of the Method 9 (40 CFR Part 60, Appendix A-4) observations shall be 1 hour (ten 6-minute averages).

B. Pursuant to 40 CFR 60.675(c)(2)(ii), the duration of the Method 9 (40 CFR Part 60, Appendix A-4) observations may be reduced to the duration the affected facility operates (but not less than 30 minutes) for baghouses that control storage bins or enclosed truck or railcar loading stations that operate for less than 1 hour at a time.

iii. Pursuant to 40 CFR 60.675(c)(3), when determining compliance with the fugitive emissions standard for any affected facility described under 40 CFR 60.672(b) or 40 CFR 60.672(e)(1), the duration of the Method 9 (40 CFR Part 60, Appendix A-4) observations must be 30 minutes (five 6-minute averages). Compliance with the applicable fugitive emission limits in Table 3 of 40 CFR 60 Subpart OOO must be based on the average of the five 6-minute averages.

d. Pursuant to 40 CFR 60.675(d)(1), to demonstrate compliance with the fugitive emission limits for buildings specified in 40 CFR 60.672(e)(1), the owner or operator must complete the testing specified in 40 CFR 60.675(d)(1) and (2). Performance tests must be conducted while all affected facilities inside the building are operating. If the building encloses any affected facility that commences construction, modification, or reconstruction on or after April 22, 2008, the owner or operator of the affected facility must conduct an initial Method 9 (40 CFR Part 60, Appendix A-4) performance test according to 40 CFR 60.675(d) and 40 CFR 60.11.

e. Pursuant to 40 CFR 60.675(f), to comply with 40 CFR 60.676(d), the owner or operator shall record the measurements as required in 40 CFR 60.676(c) using the monitoring devices in 40 CFR 60.674(a)(1) and (2) during each particulate matter run and shall determine the averages.

f. Pursuant to 40 CFR 60.675(i), if the initial performance test date for an affected facility falls during a seasonal shut down (as defined in 40 CFR 60.671) of the affected facility, then with approval from the

permitting authority, the owner or operator may postpone the initial performance test until no later than 60 calendar days after resuming operation of the affected facility.

17a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

b. Testing required by Condition 18 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.

18. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person’s own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.

19a. Pursuant to 40 CFR 60.7(b), any owner or operator subject to the provisions of 40 CFR Part 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control

equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

b. Pursuant to 40 CFR 60.7(f), any owner or operator subject to the provisions of 40 CFR Part 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR Part 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.

20. Pursuant to 40 CFR 60.676(b)(1), owners or operators of affected facilities (as defined in 40 CFR 60.670 and 60.671) for which construction, modification, or reconstruction commenced on or after April 22, 2008, must record each periodic inspection required under 40 CFR 60.674(b) or (c), including dates and any corrective actions taken, in a logbook (in written or electronic format). The owner or operator must keep the logbook onsite and make hard or electronic copies (whichever is requested) of the logbook available to the Illinois EPA or USEPA upon request.

21. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to Section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

22. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.

23a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:

i. Records addressing use of good operating practices for the baghouses and wet scrubbers:

A. Records for periodic inspection of the baghouses and wet scrubbers with date, individual performing the inspection, and nature of inspection; and

B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

ii. Total amount of material processed through the crushers (tons/month and tons/year);

iii. Total amount of material screened (tons/month and tons/year);

iv. Total amount of material transferred by conveyors (tons/month and tons/year);

v. Total amount of material processed through the dryers throughput (tons/month and tons/year);

vi. Propane Usage in the dryers (gallons/month and gallons/year);

vii. Natural gas usage in the dryers (mmscf/month and mmscf/year); and

viii. Monthly and aggregate annual emissions of CO, NO_x, PM, PM_{10}, SO_2, and VOM from source with supporting data and calculations (tons/month and tons/year).

b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

24. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the

Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.

25a. If there is an exceedance of or a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.

b. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5407 N. University Street
Peoria, Illinois 61614

It shall be noted that this permit has been revised to incorporate Construction Permit No. 11070031 and 12100041.

If you have any questions on this permit, please contact Mike Dragovich at 217/785-1705.

Raymond E. Pilapil, Date Signed: _____
Acting Manager, Permit Section
Division of Air Pollution Control

REP:MJD:psj

cc: Illinois EPA, Region 2
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the Silca Sand Mine and Processing Facility operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, (e.g., 100 tons/year of PM_{10} and SO_2) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

	E M I S S I O N S (Tons/Year)					
Emission Unit	CO	NO_x	PM	PM_{10}	SO_2	VOM
Damp Conveyers			1.78	0.58		
Damp Hoppers			0.56	0.19		
Storage Bin			2.28	0.10		
Loadout Spout			4.27	0.18		
Damp Screens			4.84	1.63		
Sealed Screens			0.50	0.17		
Damp Crushers			4.29	1.72		
Sand Dryers			39.68	20.35		
Covered Conveyers			1.68	0.62		
Collected Conveyers			0.74	0.27		
Bucket Elevators			0.40	0.15		
Bucket Elevator			1.53	0.56		
Storage Bins			13.68	0.59		
Loadout Spouts			3.65	0.16		
Vibrating Screens			5.00	1.74		
Vibrating Conveyers			0.01	0.01		
Damp Hopper			0.43	0.14		
Crusher			18.40	7.36		
Feeders			0.55	0.18		
Damp Conveyors			1.47	0.48		
Storage Bin			0.12	0.04		
Vibrating Screen			6.75	2.27		
Dryer			34.16	17.52		
Conveyors			0.43	0.16		
Bucket Elevators			0.16	0.06		
Vibrating Screen			1.00	0.35		
Storage Bins			2.53	0.01		
Loadout Spouts			0.49	0.02		
Loadout Spout			0.30	0.11		
Wet Screens			0.44	0.44		
Dryer	14.72	24.89	1.34	1.34	0.96	1.91
Natural Gas Combustion	13.61	16.21	1.23	1.23	0.10	0.89
Totals	28.33	41.10	154.69	60.73	1.06	2.80